

03050106-04

(*Broad River*)

General Description

Watershed 03050106-04 (formerly 03050106-050) is located in Newberry and Fairfield Counties and consists primarily of the ***Broad River*** and its tributaries from the Tyger River to the Parr Shoals dam. The watershed occupies 146,192 acres of the Piedmont region of South Carolina. Land use/land cover in the watershed includes: 65.3% forested land, 18.1% agricultural land, 4.7% urban land, 2.7% forested wetland, 7.1% water, 1.4% barren land, and 0.7% scrub/shrub land.

This section of the Broad River accepts drainage from its upper reaches, together with the Tyger River Watershed, the Enoree River Watershed, Beaver Creek (McClures Creek, Chicken Creek, Storm Branch, Reedy Branch, Sandy Fork), Rocky Creek, and Terrible Creek. The Parr Shoals dam impounds the Broad River to form Parr Reservoir, which accepts drainage from Hellers Creek (Second Creek, Buck Branch) and Cannons Creek (Rocky Branch, Kerr Creek, Charles Creek, Mud Creek). Monticello Reservoir is connected to Parr Reservoir by Frees Creek. The Sumter National Forest and the Broad River Waterfowl Area are natural resources in the watershed. There are a total of 242.6 stream miles and 8,498.3 acres of lake waters, all classified FW.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
RS-04527	RS04/BIO	FW	McCLURES CREEK AT SC 215, 6.7MI SE OF CARLISLE
B-143	BIO	FW	BEAVER CREEK AT SR 95
B-047	S/W	FW	BROAD RIVER AT SC 34, 14 MI NE OF NEWBERRY
B-151	BIO	FW	HELLERS CREEK AT SR 97
B-346	W	FW	PARR RES. 4.8 KM N OF DAM, UPSTREAM OF MONTICELLO RESERVOIR
B-831	BIO	FW	CANNONS CREEK AT OXNER ROAD
B-751	BIO	FW	CANNONS CREEK AT US 176
B-328	P/W	FW	MONTICELLO RES., UPPER IMPOUNDMENT AT BUOY IN MIDDLE OF LAKE
RL-04370	RL04	FW	MONTICELLO RES., 1.7 MI NW OF MONTICELLO
B-327	P/INT	FW	MONTICELLO RES., LOWER IMPOUNDMENT BETWEEN LARGE ISLANDS
RL-04374	RL04	FW	MONTICELLO RES., 3.57 MI N OF JENKINSVILLE
RS-03343	RS03	FW	MUD CREEK AT MOORE BRANCH RD OFF SC 219, 0.5 MI SE S-36-499
B-345	W/INT	FW	PARR RESERVOIR IN FOREBAY NEAR DAM

McClures Creek (RS-04527) – Aquatic life uses are partially supported based on macroinvertebrate community data. Dibutyl phthalate was detected in the 2004 sediment sample. Recreational uses are not supported due to fecal coliform bacteria excursions.

Beaver Creek (B-143) - Aquatic life uses are partially supported based on macroinvertebrate community data.

Broad River (B-047) – Aquatic life and recreational uses are fully supported. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this

parameter. There is a significant increasing trend in pH. *Fish tissue samples from the Broad River indicate no advisories are needed at this time.*

Hellers Creek (B-151) - Aquatic life uses are partially supported based on macroinvertebrate community data.

Parr Reservoir - There are two SCDHEC monitoring stations along Parr Reservoir and recreational uses are fully supported at both sites. At the uptake site (**B-346**), aquatic life uses are not supported due to total phosphorus excursions. At the downlake site (**B-345**), aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life chronic criterion. There is also a significant increasing trend in five-day biochemical oxygen demand. *Fish tissue samples from Parr Reservoir indicate no advisories are needed at this time.*

Cannons Creek - There are two SCDHEC monitoring stations along Cannons Creek. At the upstream site (**B-831**), aquatic life uses are partially supported based on macroinvertebrate community data. At the downstream site (**B-751**), aquatic life uses are fully supported based on macroinvertebrate community data.

Monticello Reservoir – There are four SCDHEC monitoring stations along Monticello Reservoir. At the furthest uptake site (**B-328**), aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. There is a significant increasing trend in pH at this site. At the next site downlake site (**RL-04370**), aquatic life and recreational uses are fully supported. A very high concentration of cadmium was measured in the 2004 sediment sample. Benzoic acid, DDD, and DDE (metabolites of DDT) were also detected in the sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Further downlake (**B-327**), aquatic life uses are partially supported due to pH excursions. There is a significant increasing trend in pH. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter. At the furthest downlake site (**RL-04374**), aquatic life and recreational uses are fully supported. Very high concentrations of cadmium and nickel, and high concentrations of chromium, copper, and zinc were measured in the 2004 sediment sample. Benzoic acid, bis(n-octyl) phthalate, DDT, and DDE (a metabolite of DDT) were also detected in the sediment sample. *Fish tissue samples from Monticello Reservoir indicate no advisories are needed at this time.*

Mud Creek (RS-03343) - Aquatic life uses are fully supported, but recreational uses are not supported due to fecal coliform bacteria excursions.

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-065	GB	PIEDMONT BEDROCK	EAST CENTRAL NEWBERRY
AMB-060	GB	PIEDMONT BEDROCK	JENKINSVILLE #4
AMB-066	GB	PIEDMONT BEDROCK	NEWBERRY COUNTY MAINTAIN
AMB-080	GB	PIEDMONT BEDROCK	NEWBERRY BORED
AMB-069	GB	SAPROLITE	NEWBERRY BORED

NPDES Program

Active NPDES Facilities

RECEIVING STREAM

FACILITY NAME

PERMITTED FLOW @ PIPE (MGD)

NPDES#

TYPE

COMMENT

MONTICELLO RESERVOIR
SCE&G/SUMMER NUCLEAR STA.
PIPE #: 001 (002, 004-011, 015, 016) FLOW: 682.2
PIPE #: 014 FLOW: 0.504

SC0030856
MAJOR INDUSTRIAL

BROAD RIVER
SCE&G/SUMMER NUCLEAR STA.
PIPE #: 003 FLOW: 0.0044
PIPE #: 012 FLOW: 0.028

SC0030856
MAJOR INDUSTRIAL

PARR RESERVOIR
SCE&G/FAIRFIELD PUMPED STORAGE
PIPE #: 001 FLOW: 0.26
PIPE #: 002 FLOW: 3.6
PIPE #: 003 FLOW: 0.072

SC0035904
MINOR INDUSTRIAL

CANNONS CREEK
NCW&SA/BROAD RIVER WWTP
PIPE #: 001 FLOW: 0.05

SC0048020
MINOR DOMESTIC
TO BE ELIMINATED

CANNONS CREEK
NCW&SA/CANNONS CREEK WWTP
PIPE #: 001 FLOW: 0.95

SC0048313
MINOR DOMESTIC

CHARLES CREEK
FOREST HILLS SD/ELBO INC.
PIPE #: 001 FLOW: 0.02

SC0024571
MINOR DOMESTIC

ROCKY CREEK
VULCAN MATERIALS CO./BLAIR QUARRY
PIPE #: 001, 002 FLOW: M/R

SCG730053
MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Activities

SOLID WASTE LANDFILL NAME

FACILITY TYPE

PERMIT

STATUS

NEWBERRY COUNTY LANDFILL
DOMESTIC

DWP-117
CLOSED

NEWBERRY COUNTY LANDFILL
DOMESTIC

361001-3002
CLOSED

NEWBERRY COUNTY LANDFILL COMPOSTING	361001-3001 ACTIVE
NEWBERRY COUNTY TRANSFER STATION DOMESTIC	361001-6001 ACTIVE
CITY OF NEWBERRY COMPOSTING	361002-3001 ACTIVE
DILLARD EXCAVATING WOOD CHIP CTR COMPOSTING	232734-3001 ACTIVE
KAISER ENTERPRISES INC. COMPOSTING	202726-3001 ACTIVE

Water Quantity

<i>WATER USER</i> <i>STREAM</i>	<i>REGULATED CAP. (MGD)</i> <i>PUMPING CAP. (MGD)</i>
SCE&G VC SUMMER NUCLEAR STATION WTP	1.6
MONTICELLO RESERVOIR	3.2

Growth Potential

There is a low to moderate potential for growth in this watershed, primarily associated with residential development around the reservoirs, the Towns of Prosperity and Pomaria, and the City of Newberry. The upper portion of the watershed is effectively excluded from development by the Sumter National Forest, and the overall lack of adequate utilities to serve the remaining area will limit growth.